Staff Report
for

Supporting Document 2
Item 8

Item 8
Discussion
November 10, 2004

To: John H. Robertus
Executive Officer

From: Paul J. Richter
Water Resource Control Engineer
Industrial Compliance Unit

Tentative Order No. R9-2004-0378
NPDES Permit No. CA0107239

WASTE DISCHARGE REQUIREMENTS

FOR

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

SAN DIEGO COUNTY

Background

The Scripps Institution of Oceanography (SIO) has been discharging wastewater into the ocean since 1910 from its seawater system that supplies seawater to the aquaria and research laboratories. The discharge occurs at the seawall and flows across the beach into the *San Diego Marine Life Refuge*, an area designated as an *Area of Biological Significance* (ASBS). The first NPDES permit adopted for the discharges at SIO by this Regional Board was Order No. 74-47, which was adopted on September 16, 1974. The NPDES permit has been re-issued in 1979, 1984, 1994 and 1999. The most recent permit is Order No. 99-83, NPDES Permit No. CA0107239, which was adopted on November 10, 1999 and expires on November 10, 2004.

Since the issuance of Order No. 99-83, the State Water Resources Control Board (State Board) has required SIO to apply for and receive an exception to the 2001 California Ocean Plan (Ocean Plan) for discharge of wastes to an ASBS. On March 21, 1974, the State Board in Resolution

No. 74-28, designated 31 ASBS in ocean waters along the California coastline, including the *San Diego Marine Life Refuge*.

The State Board adopted the Ocean Plan on November 16, 2000. The Ocean Plan prohibits wastes discharges to ocean waters that are designated ASBS. The Ocean Plan allows the State Board to grant exceptions to the Ocean Plan, requirements, including the prohibition of waste discharges to ASBS. An Ocean Plan exception by the State Board is required for the discharges from the SIO because the discharges at SIO flow across the beach into the *San Diego Marine Life Refuge*, an ASBS.

On July 22, 2004, the State Board adopted Resolution No. 2004-0052, which approved a *Mitigated Negative Declaration* for an exception for the discharges from the SIO seawater system and for the discharges of municipal storm water from SIO to the *San Diego Marine Life* ASBS. If the State Board had not issued an exception to the Ocean Plan prohibition, SIO would have been required to terminate the discharges of wastewater to the *San Diego Marine Life Refuge*.

Summary

Tentative Order No. R9-2004-0378 renews the existing NPDES permit, Order No. 99-83, for the SIO and contains significant changes to the current NPDES permit. The tentative Order includes the conditions required by the Ocean Plan exception adopted by the State Board.

The conditions include 16 studies or reports, 19 monitoring requirements, four prohibitions and five provisions. The exception conditions require compliance with effluent limitations in the Ocean Plan for the discharges of the discharger's seawater system water and for municipal storm water discharges. These conditions contain extensive monitoring requirements and numerous studies. The conditions also require the elimination, by January 1, 2007, of all non-storm water discharges to the storm water sewer system at SIO that discharges to the ASBS.

The conditions for inclusion in the reissued NPDES permit include the following:

1. The discharge must comply with all applicable provision, including water quality standards, of the Ocean Plan.

2. The establishment of numerical effluent limitations for the seawater system discharges and for seawater system discharges that are combined with storm water discharges.

3. The establishment of bacterial receiving water limitations.

4. The requirement that a committee be developed to review monitoring data and define *natural water quality conditions*.

5. Adds requirements that the discharger develop and the submit reports and studies to: a. develop and implement a *Storm Water Management Plan/Program*; b. survey the benthic marine life; c. conduct a bioaccumulation study for metal concentrations in sand crabs; d.

determine initial dilution of the discharges during dry weather and during a storm event; e. determine fate of the discharges during dry weather and during a storm event; f. describes administrative and engineering controls for minimizing the risk of the release of exotic species; and g. identify conditions that cause an alteration of natural water quality.

6. Adds prohibitions that require that the discharges at SIO: a. do not alter the natural water quality of the receiving water; b. do not contain Formalin; c. that the discharge of non-storm water urban runoff be eliminated on January 1, 2007; and d. all discharges are prohibited after November 11, 2009, unless SIO applies for and receives an exception from the State Board.

7. Adds provisions that require the discharger to: a. minimize chemical concentrations in the effluent; b. eliminate the use of copper in the seawater system discharge; c. minimize all additives to the seawater system at the Birch Aquarium; d. use an analytical method with a minimum limitation that allows for determination of compliance, currently Inductively Coupled Plasma/Mass Spectrometry for copper discharges; and e. develop controls that result in the negligible risk of the release of exotic species.

The conditions specified in State Board Resolution No. 2004-0052 are listed and discussed in the Fact Sheet for the tentative Order (pp. 4-8). The State Board Resolution and the supporting Initial Study are Attachment No. 1 to the Fact Sheet.

All of the State Board exception conditions are included in the tentative, either in the Order as *Special Conditions* (tentative Order, pp.6-16), or in the monitoring requirements in the tentative Monitoring and Reporting Program (MRP). The exception conditions in the MRP are not listed as separate conditions.

Facility Discharge History

The SIO has been discharging wastewater into the ocean in the vicinity of its pier since 1910. The first Waste Discharge Requirements were issued by the Regional Board on September 30, 1969 (Order 69-R24). The current seawater intake system has a capacity to pump approximately 1 million gallons per day of seawater from the seaward end of the SIO Pier. The water is filtered through two sand filters before it is pumped to two storage tanks. The water is pumped to various research laboratories and aquaria at SIO.

Discharges of seawater system wastewater at SIO occurs at five Outfalls, Outfall 001, 002, 003, 004a, and 004b. Storm water discharges can combine with the discharges from Outfall 001, and 003.

Outfall 001: Discharges approximately 450,000 gallons per day of wastewater that has been circulated through the Stephen Birch Aquarium, National Marine Fisheries Aquarium, Hydraulic Laboratory, and the Marine Biology Aquaria.

Outfall 002:	Discharges approximately 2,000 gallons per day of wastewater from Scholander Hall aquaria. (Reportedly, the discharge of seawater at this Outfall has been eliminated. Storm water discharges will, however, still occur from this outfall.)
Outfall 003:	Discharges approximately 210,000 gallons per day of wastewater from the Experimental Aquarium.
Outfall 004a and 004b:	Discharges approximately 50,000 gallons per day of wastewater. Outfall 4a discharges intake water and settling tank overflow while Outfall 4b discharges sand filter backwash water.

The wastewaters from all outfalls are discharged onto the beach where it flows across the beach and into the *San Diego Marine Life Refuge*, an ASBS.

Availability of the tentative Order

The tentative Order was mailed on October 8, 2004, 34 days prior to today's meeting.

Comment letters

As of October 28, 2004 we have received 2 comment documents regarding the tentative Order, one letter from SIO and e-mail from the Dominic Gregorio, DWQ, State Board. A response to the comment documents will be provided with the supplemental mailout of material to the Regional Board.